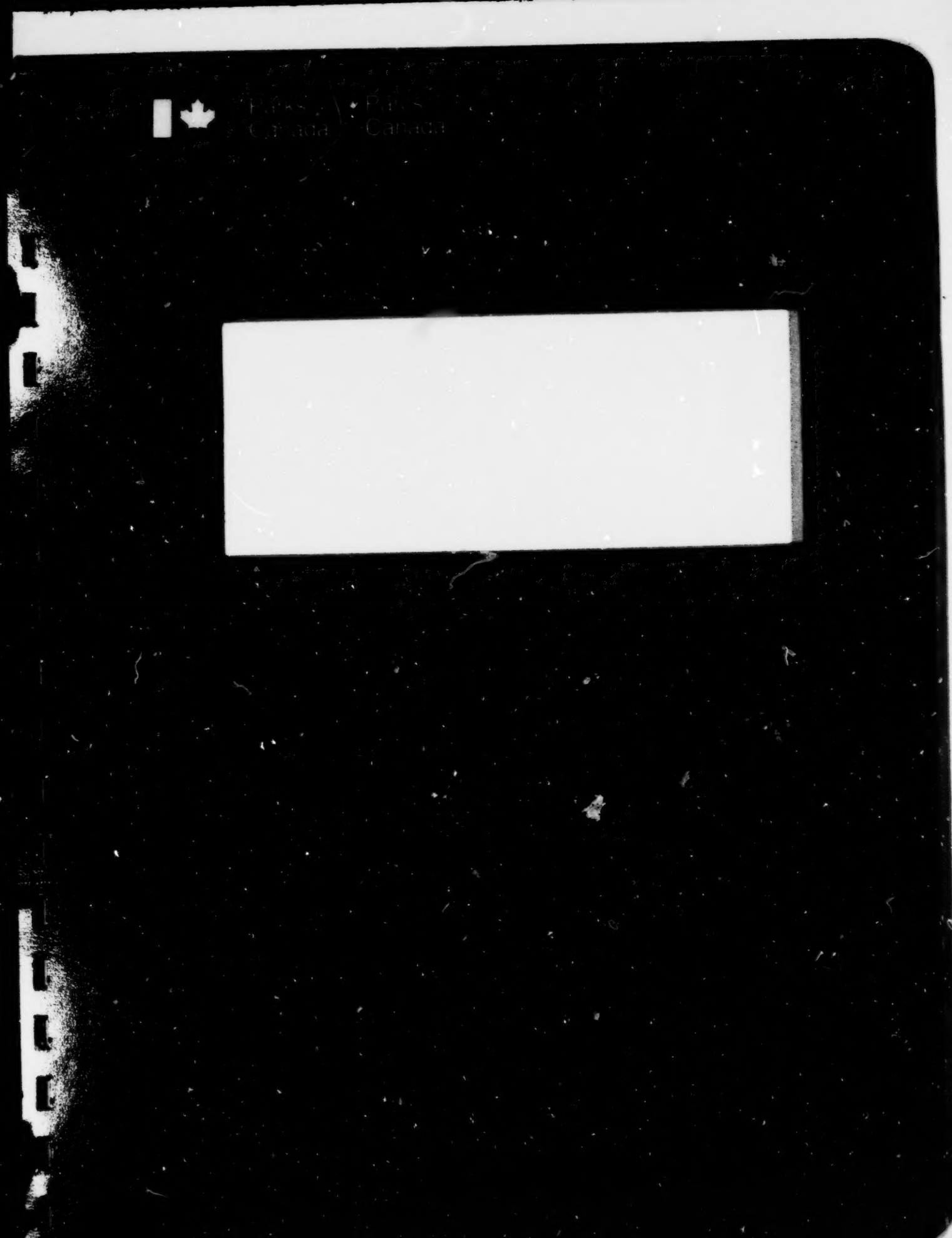

MALIGNE CANYON SELF-GUIDING TRAIL AND ON SITE EXHIBIT

AN EVALUATION

SUMMARY REPORT

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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Evaluation of interpretive media is an established stage of the Western Region Interpretive planning process. Some of the major advantages of evaluation include:

1. It allows us to gain a better understanding of park visitors and their expectations of our facilities. Thus we can develop more effective facility designs.

2. It allows us to assess the effectiveness and efficiency of a project. This information is then subsequently used in the planning stages of other projects. By learning from our previous experiences we produce better plans which ultimately lead to better services for the visitor.

In the past SED has undertaken several evaluation projects but has, to date, been unable to provide us with final reports. As a result, a pilot evaluation project was approved and undertaken in June, 1982, to evaluate the Self-Guiding Trail and On-Site Exhibit at Maligne Canyon in Jasper National Park. This document outlines the evaluation strategy used, the results and analysis and discusses the conclusions drawn from the site analysis. Recommendations are made for finetuning the site to correct any problems that are occurring and to assist in designing future media.

The Maligne Canyon is world famous for its spectacular scenery and was selected in the Interpretive Plan for the Seven National Parks of the Canadian Cordillera to interpret the forces of erosion for visitors to the Rocky Mountain Region. In 1982, as recommended by the Maligne Valley IMU Plan, the rehabilitation of Self-Guiding Trail media and an On-Site Exhibit was completed.

Criteria were set to determine the success of each non-personal medium on-site. These objectives dealt with visitor information known after reading the sign, information gained from reading the sign, sign attraction, text interest, pedestrian movement on site and visitor duration at Maligne Canyon. Data was collected on site from August 1 to September 10, 1982, by Western Regional Office and Jasper National Park staff and by volunteers using questionnaires, observations and traffic counters.

Of the 15 media at the Canyon, eight require no refinement. The On-Site Exhibit requires design modifications and text revisions, six signs require rewording and four require relocation. One sign should be removed as it is inefficient.

Danger signs about the river are required near the Teahouse and below Bridge #4, near the river, and warning signs of the slippery trail are needed on the Upper and Lower Trail. In addition, a directional sign is required at the junction of the Lower and Upper Trail for people coming from the Lower Trail. A road sign should also be installed on Maligne Road to indicate the start of Maligne Valley.

Two site modifications are required - drainage on Bridge #3 to remove the water and modifications to reduce the slipperiness of the trail.

From the visitor's point of view the trail is a success. It enhances their positive view of Parks Canada and interpretive media and provides an enjoyable, interesting experience.

This is one of three reports resulting from this survey. The other two reports are:

1. Technical Report - includes a detailed outline of the strategy, methods, results and analysis used and a complete discussion of the results and recommendations.

2. Evaluation Procedures Report - includes a discussion of the procedures followed in this evaluation, problems that arose and recommendations to correct these problems for the next evaluation project.

2. INTRODUCTION

Maligne Canyon is a spectacular example of landscape sculpturing in the Maligne Valley. Open to the public since 1911, it has attracted thousands of visitors per year, which has resulted in a high impact upon the site - i.e. vegetation trampling and soil and rock denuding. Public safety had become a major problem as people were in danger of falling into the river and being swept over the falls.

In 1977 an I.M.U. Plan for Maligne Valley, including the Canyon, was approved and rehabilitation of the site was undertaken from 1979-1982. A self-guiding trail system and an on-site exhibit were also installed along with improved safety features. The project was completed in the spring of 1982.

In order to determine the effectiveness and success of the media, an evaluation of the site was carried out. The evaluation determined the information being learned by the visitor from the signs, whether visitors actually stopped and read the sign, and if the sign was interesting enough to hold their attention to completely read it. Information as to visitor movement on site, indicating that visitors may not be reaching all sites as expected, was also obtained, as well as the time visitors spent at the site.

In addition, visitor interaction with the site (touching rocks, water etc.) and their feelings regarding the site and Parks Canada were also assessed.

The evaluation project was initiated in July, 1982, and data collection began on August 1, 1982. As a result there was only one month to write and approve the Terms of Reference, design the evaluation strategy and write the questionnaires and no time to pretest the questions to weed out ambiguous questions. However, in the final analysis, the lack of a pretest did not significantly hamper the evaluation.

3. GLOSSARY

Measurable Objective - the results we are aiming to achieve when planning the site; the criteria for success.

Affective Objectives - objectives which define the attitudes, values and feelings which visitors are expected to have at the site, i.e. an enjoyable experience.

Behavioural Objectives - objectives which define the behaviour expected of the visitors i.e. 75% will be able to point out the fossils in the rock.

Cognitive Objectives - objectives which define the knowledge content of the media, i.e. 75% will know that the Canyon is 50m. deep at Bridge #2.

Confidence Interval - if the total population of visitors to the Canyon were tested then we are 95% confident that the result will lie within the confidence interval.

Demographic Assumptions - assumptions made concerning visitor characteristics such as age, education, mode of transportation, language etc., i.e. 95% of the vistors will be fluent in Engligh or French.

Efficiency - a comparison of knowledge known before the visitor read the sign with either the knowledge known after reading the sign or the measurable objective. If the knowledge known before reading the sign is greater or equal to that known after reading the sign or the measurable objective, then the sign is considered inefficient.

Finetuning - adjustments made to the site after its completion in order to improve the efficiency of the media, i.e. provide a better service to the public.

Holding Power - a measure of the visitor interest in a sign. It is determined by comparing the time an average visitor takes to read the sign with the actual time required

to read the sign, a holding power of 1.0 indicates that visitors, on the average, are reading the whole sign. Greater than 1.0 means that visitors stayed longer than the time required to read the sign.

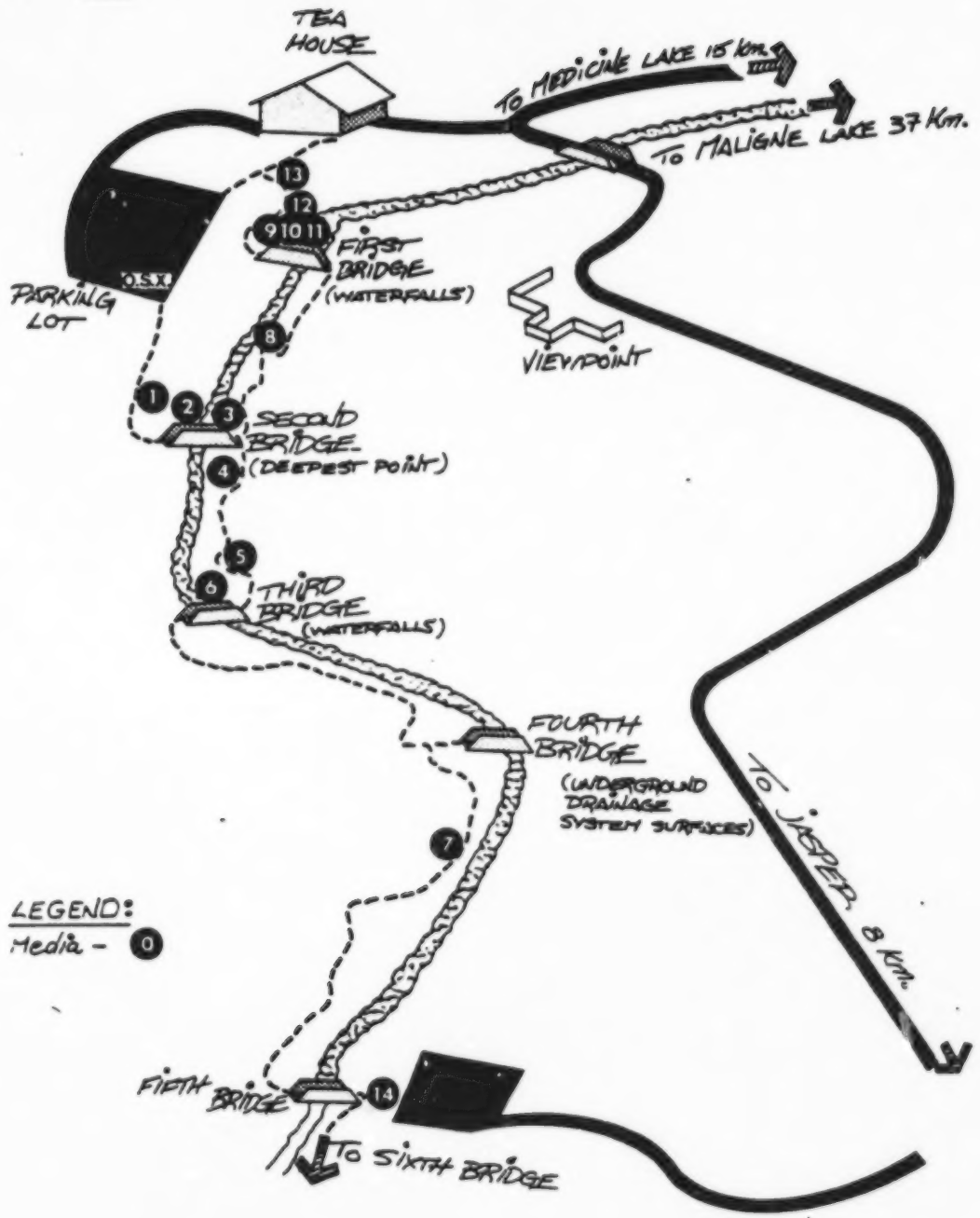
Mastery - the amount of information visitors know after reading the sign. This measurement does not consider information known before reading the sign.

Stopping Power - a measure of the attractiveness of the media. It is the percent of visitors stopping to read the media.

Traffic Flow - the movement of vehicles or pedestrians to Maligne Canyon and while on the site.

(Reference: Brown, W.S., 1982. "Evaluation Study Plan of Cave and Basin Centennial Centre". Parks Canada, WRO, Calgary. Contract #C1632)

4. **MAP**



MALIGNE CANYON

5. EVALUATION STRATEGY

5.1 Scope

The site under study included the Maligne Canyon Self-Guiding Trail from the Maligne Canyon Upper Parking lot to the Lower Parking Lot (see map, page). The data collection period ran from August 01 to September 10, 1982. Due to time constraints, a pretest period was not included.

The population considered included all visitors travelling along Maligne Road; in particular visitors entering Maligne Canyon Parking Lot and, specifically those visitors using the Maligne Canyon Self-Guiding Trail.

5.2 Methodology

Data Collection

The data was collected using five methods, each providing different information.

A. Questionnaires

Three questionnaires were used on site to provide information on visitor knowledge before and after they read the sign or visited the site, on visitor feeling before and after visiting the site, and on visitor background (age, education etc.).

Site Specific Questionnaires

These questionnaires tested the knowledge the visitor had prior to reading the sign and the knowledge after reading the sign. There were usually 2-3 questions per sign.

General Visitor Questionnaire

This questionnaire tested the information obtained by the visitor at the site, on the visitors' feelings about the site and Parks Canada and on visitor background information. It was longer than the Site Specific Questionnaire and was administered before and after visiting the site.

Tour Bus Driver Questionnaire

From this questionnaire background information about the visitors on bus tours and information on the tour itself was obtained.

B. Traffic Flow

In order to determine how the visitors were moving on site the direction they moved and the places they reached, traffic flow counts were taken. This information was used to determine if visitors are moving as expected or if they are missing some part of the Trail.

C. Parking Duration

These results provided information on the vehicles entering Maligne Canyon Parking Lot - duration on site, visitors per vehicle, types of vehicles, origin of the vehicles and on visitor volume.

D. Media Stop/Hold

From this information the attraction of the signs (stopping power) and the interest in the signs (holding power) were calculated. This indicates the percent of visitors who interact with the media and their interest in the message and the content of the sign.

E. Tracking

To determine visitor behaviour while on site, general visitor movement, percent of visitors reading any signs and the duration visitors spent at the Canyon, visitors were tracked during their visit to the Canyon.

5.3 Schedule

The data was collected over six weeks, during three two-hour periods per day.

Due to the number of media evaluated (14 signs and the On-Site Exhbit) and the number of objectives set for this site a large amount of data had to be collected. In addition, to obtain a sufficient sample size, data had to be collected over two two-hour periods, on different days.

5.4 Resources

A. Personnel

Data collection was carried out by the Interpretive Evaluation Crew Chief, Carol Boyle, with occasional assistance from JNP Chief Park Interpreter, Jim Todgham, Survey Officer, Mark Brunell, and JNP seasonal interpreters.

Originally, seasonal interpreters were to assist with data collection for this project. However, due to the period of the data collection there was difficulty in obtaining time from the interpreters' schedule. To assist with the evaluation, a group of 30 students from Lakehead University, Thunder Bay, Ontario, volunteered to collect data on September 5.

In addition, personnel from the Survey Office carried out traffic flow counts on Maligne Road on July 11 and 12, parking duration counts on August 13 and 14, and Mark Brunell, Survey Officer, assisted with tracking on August 13 and 14. All of this information proved invaluable.

Training for the seasonal interpreters and volunteers consisted of a one hour seminar covering the theory of evaluation and the methods used to obtain data. There was insufficient time to allow for an efficient training season. Due to this and site and equipment constraints some of the data was incomplete and the sample was very small.

B. Equipment

A rental vehicle was available for transportation during the evaluation period.

Two automatic trail counters were installed on the Lower Trail on July 31, 1982 until October, 1982. Two automatic trail counters were already installed on the Upper Trail Loop.

An Automatic Traffic Recorder was operating on the Maligne Canyon Access Road from July 25 to August 8 and from August 18 to 24. The traffic recorder was on loan from the Survey Office.

Two manual counting boards (from the Survey Office, WRO) were available from July 26 to September 10, 1982. Two additional boards were supplied for the volunteer evaluation on September 5.

One stopwatch was purchased for determination of media holding power. At times when a number of people were involved in data collection more stopwatches were required and this lack may have affected some of the data.

There were problems with visitors tampering with the trail counters; however, usually this did not affect the counts for more than a few days.

6. RESULTS AND ANALYSIS

Since this is a pilot evaluation project we have had little experience in setting measurable objectives. Some of the objectives were overly ambitious, noticeably stopping power for most signs and the wording of the objective may have been incorrect or ambiguous. As a result, some objectives which have been met do not necessarily indicate a problem with the site.

For the same reasons the wording of some questions may have been ambituous or misleading to the visitor. There was no pretest of questions to identify problems but only a few questions proved to be misleading and this is noted as a study design bias.

All results show a 95% confidence interval (i.e. 77.1±12%). There is 95% confidence that, if the entire population of visitors to Maligne Canyon were evaluated, the result would lie within this interval. Due to the small sample size for some questionnaires, this interval is very broad.

OVERALL SITE OBJECTIVES

OBJECTIVE	RESULT	COMMENT
Of the visitors who read the media		
90% will know that the Canyon was sculptured by water erosion.	80.6±12%	Objective not met
90% will know that the Canyon was cut into limestone.	61.4±12%	Objective not met
25% of the children between 8 and 12 years old will be able to understand the media.	Insufficient Data	

Discussion/Conclusion

Information concerning water erosion is supplied in the On-Site Exhibit, Signs 1, 8, 12, and partially in Signs 3 and 14. Many people felt that glaciers sculptured the Canyon and it is possible that they either meant glacial meltwater or were confused by the media. This problem arose with Sign #1 and clarification of this information is required in that text.

Information on the limestone is supplied in Signs 2, 7 and 8. Since this is a major objective it could be stressed further, possibly in the On-Site Exhibit as well. In many places the media refer to 'rock' or 'bedrock'; by referring to limestone instead, this point may be mastered by more people.

RECOMMENDATIONS

Clarify the erosion of the Canyon by water in Sign #1 at least.

Mention the type of bedrock (limestone) more frequently in the media, whenever rock is being discussed, possibly in the On-Site Exhibit and in Signs 1, 4, 9, 12 and 13.

ON-SITE EXHIBIT

OBJECTIVE	RESULT	COMMENT
Of the people who read the On-Site Exhibit:		
90% will know that Maligne Canyon is part of Maligne Valley.	43.5±15%	Objective not met
95% will be able to indicate Maligne Canyon on the model.	82.6±11%	Objective not met
75% will know that a sea once covered part of North America.	50.0±15%	Objective not met
90% will know that there are recreational opportunities throughout the rest of Maligne Valley.	71.7±13%	Objective not met
75% will know that the Valley is still being eroded.	82.9±13%	Objective met
90% will be aware that the Canyon is potentially dangerous.	76.7±7%	Objective not met
Stopping Power - 75%	42.0±2%	Objective not met
Holding Power - 1.0	0.46±.02	Objective not met

Discussion/Conclusion

The On-Site Exhibit is not meeting its objectives. Some of the problems are:

1. insufficient information regarding the location of the Canyon in relation to Maligne Valley.
2. glare and insufficient labelling on the model.
3. visitor confusion regarding magnitudes of time. (visitors thought glaciers were here before the mountains)
4. visitors not reading the two panels facing away from the Parking Lot, therefore not learning about other recreational opportunities throughout the Valley.
5. insufficient emphasis on the danger at the Canyon.
6. too much information provided by one exhibit, when visitors are anxious to see the Canyon.

By relocating the two panels that do not face the Parking Lot (Panels 1 and 4) at the end of the trail, the panels will be more noticeable to visitors and provide them with information on the rest of Maligne Valley. The reduction in information content in the Exhibit will increase the holding power for all four panels. In addition, the information gained by the visitors should increase as they will be assimilating less information at one time.

Skylights have already been put in the Exhibit to reduce the glare.

RECOMMENDATONS

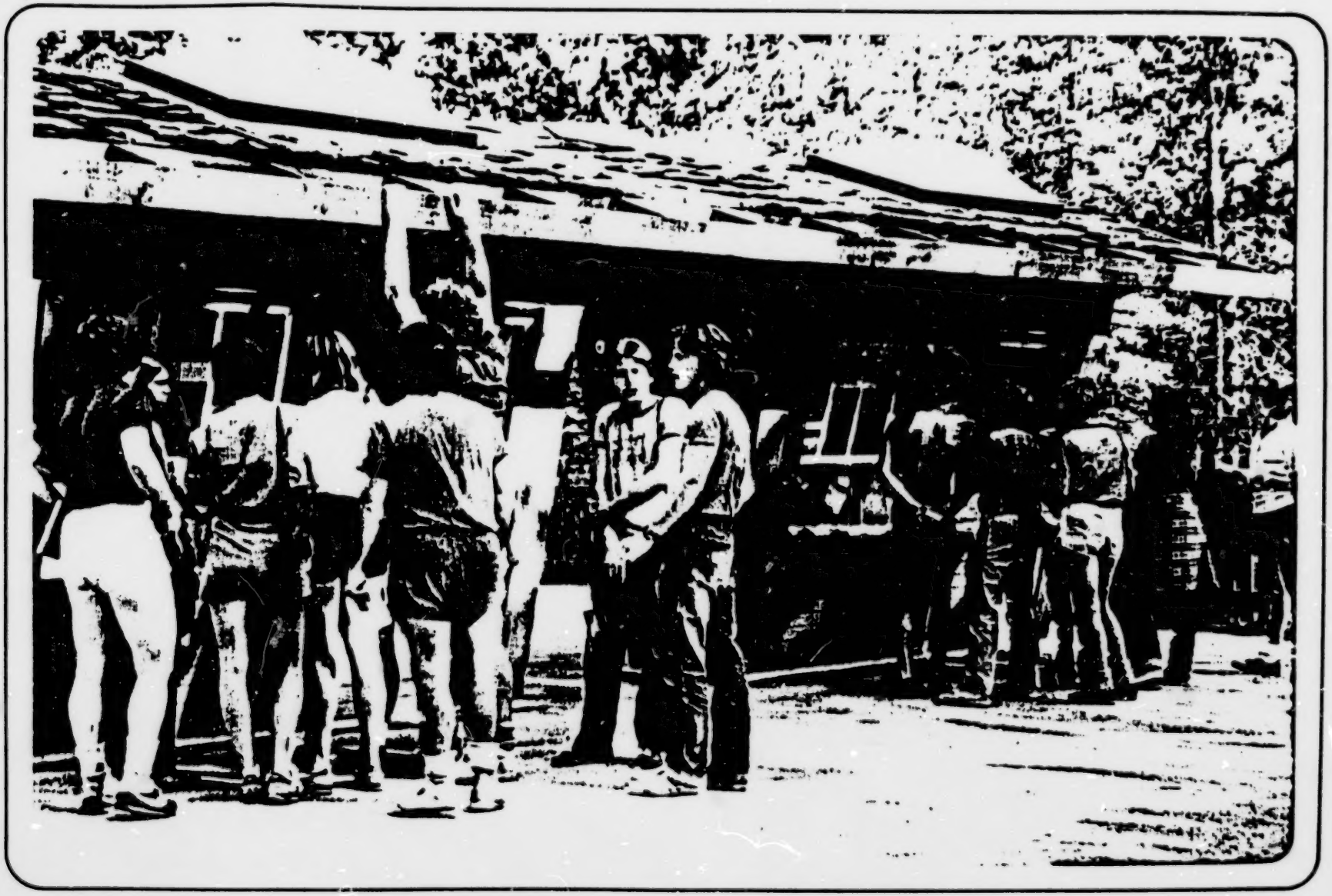
Place the two panels facing away from the Parking Lot (panels 1 and 4) at the Teahouse to face the end of the trail.

Clarify the extent of Maligne Valley and the location of the Canyon. The road sign on Highway 16 should be modified to read Maligne Valley and another sign placed on Maligne Road indicating the start of the Valley.

Clearly label the model.

Include a graphic time scale showing the geological history of the Valley and the Canyon, to clarify the geological time frame, history and formation of the mountains.

Emphasis the danger present at the Canyon.



The On-Site Exhibit Crowding around the panels facing the Parking Lot. Two other panels are on the opposite side. Note the glare on the glass.

SIGN #1

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #1		
75% will know that the Canyon was sculptered by water.	43.8±14%	Objective not met
50% will know that the Canyon is 50 m. deep at the Second Bridge.	62.5±14%	Objective met
50% will know that the last glacier retreated 10,000 years ago.	77.1±12%	Objective met
Stopping Power - 75%	38.0±12%	Objective not met
Holding Power - 1.0	0.94±4.6	Objective not met

Discussion/Conclusion

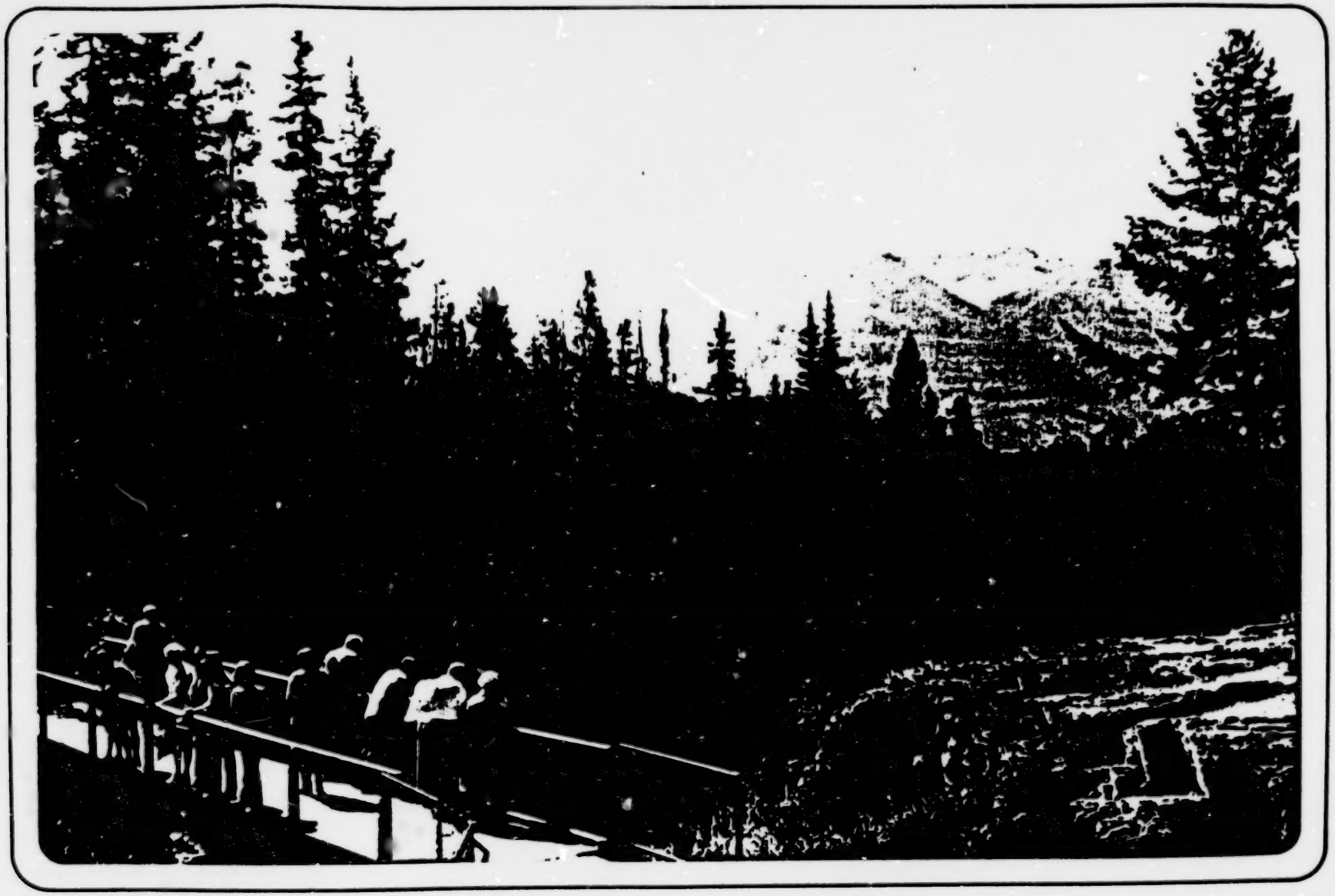
Confusion concerning the sculpturing of the Canyon resulted from this sign - readers thought that glaciers had caused the Canyon. This point should be clarified.

The sign is placed just off the path leading to the Second Bridge and is frequently by-passed as visitors walk to the bridge, not even noticing this sign. Visitors coming from the Second Bridge to the OSX rarely stop since the sign is not facing them. In addition the view from this point is a strong attraction (see plate 2) showing the Athabasca Valley beyond the Canyon. Visitors are more attracted to this scene and tend to move towards the bridge and do not notice the sign, off to the left in a view point. Little can be done about the attraction of the scene but the sign can be moved to a more noticeable position.

RECOMMENDATIONS

Reworded the sign to prevent confusion regarding the sculpturing of the Canyon by water.

Move and angle the sign towards the trail.



Athabasca Valley (Bridge #2, Sign #2) A strong scenic attraction, pulling visitors away from Sign #1. Note the crowding around Sign #2 even with few people on the bridge.

SIGN #2

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #2		
60% will know that the limestone bedrock formed as the floor of a sea.	55.9±17%	Objective not met
60% will know that the river follows cracks in the limestone.	50.0±17%	Objective not met
Stopping Power - 75%	29.0±3.5%	Objective not met
Holding Power - 1.0	0.93±.03	Objective not met

Discussion/Conclusion

The text of this sign is possibly confusing and maybe too long. In addition the spectacular view of the Canyon draws people away from this sign. Here the Canyon is so overwhelming that visitors tend to simply stand and stare then finally move onwards.

The sign is also placed in perhaps the busiest site of the trail. Frequently, at busy periods, the bridge becomes totally crowded with people and it becomes impossible to get near enough to the sign to read it. Especially when a tour bus arrives, only 5 or 6 people can read the sign. The rest cannot move close enough to read it and then have to move on.

The complicated information in the text is not sufficiently interesting to compete with the Canyon's scenery.

RECOMMENDATIONS

Rewrite the text, simplifying and clarifying it.

Move the sign to a location where the scenery does not compete for attention with the sign.

SIGN #3

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #3		
80% will be able to point out where they are on the map.	88.9±12%	Objective met
80% will know that there is an Upper and Lower Trail in the Canyon.	51.9±19%	Objective not met
75% will know that there are examples of erosion along the Upper Trail.	11.1±12%	Objective not met
50% will know there is an underground river outlet along the Lower Trail.	18.5±15%	Objective not met
Stopping Power - 80%	50.0±4%	Objective not met
Holding Power - 1.0	1.44±.05	Objective exceeded

Discussion/Conclusions

People are able to orient on the map but, although they know there are two trails in the Canyon, could not name them. If the names are important they should be given greater stress in the text. Although people did not state there were examples of erosion on the Upper Trail or an underground river on the Lower Trail, they were able to name at least one feature found on each trail. The objectives for this sign were not carefully outlined. As visitors know there are two trails in the Canyon and can name some features found on the trails, this should suffice.

This sign is subject to some crowding, resulting in a low stopping power but there is no place to relocate the sign.

RECOMMENDATIONS

None

SIGN #4

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #4		
75% will know that frost erodes the canyon walls.	83.3±12%	Objective met
Stopping Power - 75%	58.0±4%	Objective not met
Holding Power - 1.0	0.99±.01	Objective met

Discussion/Conclusion

The lack of a place to stand to read this sign is a problem with this sign. Any person reading this sign tends to block the trail, preventing others from passing by. Therefore other people tend not to stop and those who do stop may feel pressured to move because they are blocking the trail.

However this sign has a stopping power of 58%, higher than other signs on the trail. The expected stopping power was originally set too high and therefore, this sign is probably quite successful, in comparison with other signs.

RECOMMENDATION

None

SIGN #5

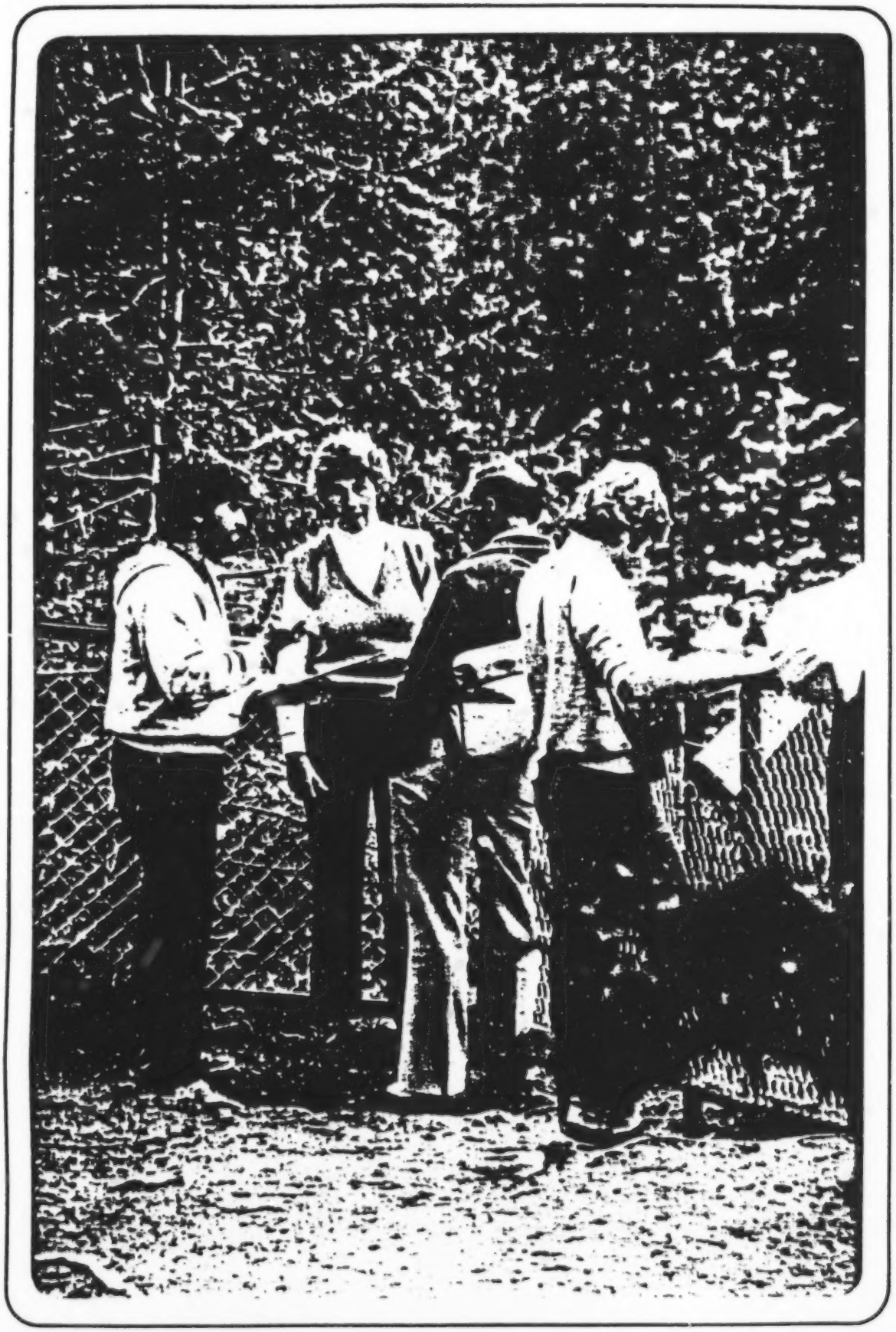
OBJECTIVES	RESULTS	COMMENTS
Of the people who read Sign #5		
90% will know that wildlife use the cliff as dwelling sites for protection.	91.4±9%	Objective met
75% will look for birds and animals.	Insufficient Data	
Stopping Power - 75%	54.9±5%	Objective not met
Holding Power - 1.0	1.42±.03	Objective met

Discussion/Conclusion

This sign definitely provides an attraction, holding people's interest and supplying information about the wildlife. Stopping power could possibly be increased by moving the sign to the right, making it more visible from the trail; however, as the subject matter is already to the left of the sign, this move may confuse the reader as to the whereabouts of the raven's nest.

RECOMMENDATION

None



Volunteer Evaluator Evaluating Sign #5 using volunteer student evaluators from Lakehead University.

SIGN #6

OBJECTIVE	RESULT	COMMENTS
Of the people who read Sign #6		
75% will know that moss grows in the canyon due to water spray from the waterfall.	92.0±11%	Objective met
Stopping Power - 75%	59.3±6%	Objective not met
Holding Power - 1.0	1.17±.02	Objective met

Discussion/Conclusions

People who had not read this sign were able to answer this question and the sign is therefore inefficient. The stopping power is low for two reasons:

There is a lack of drainage on the bridge resulting in a puddle of water usually covering the bridge. People are reluctant to stand in the water to read a sign.

The waterfalls are strong attractions, pulling visitors away from the sign.

RECOMMENDATIONS

Rewrite the sign to provide more detailed information.

Install proper drainage to remove water on the bridge.

SIGN #7

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #7		
90% will know that underground springs seep into the river.	68.0±19%	Objective not met
80% will look for underground spring outlets.	Insufficient Data	
Stopping Power - 75%	80.3±8%	Objective met
Holding Power - 1.0	2.07±0.2	Objective exceeded

Discussion/Conclusion

The text does not clearly explain where the river water originates, thereby confusing the visitors. The text should be rewritten to clearly outline how the water enters the river. In addition the objective set for this message was extremely high. Reconsideration of the objective is required.

RECOMMENDATION

Rewrite the text clarifying the origination of the river water.

SIGN #8

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #8		
75% will know that the major erosional factors in Maligne Canyon are sand, water and acid.	91.8+8%	Objective met
75% will know that the potholes are caused by erosion.	81.2+12%	Objective met
Stopping Power - 75%	47.9+3%	Objective not met
Holding Power - 1.0	1.5+.03	Objective exceeded

Discussion/Conclusion

This sign tends to become crowded, especially when a bus tour moves through on the trail. The Canyon is also spectacular at this point, drawing away from the sign. Therefore the stopping power is low and little can be done to increase it.

RECOMMENDATION

None

SIGN #9, 10, 11 (together)

OBJECTIVE	RESULT	COMMENT
Of the people who read signs 9, 10, 11		
75% will know that the water of the waterfall erodes the upper, thicker layers slower than the lower, thinner layers of the water-fall.	68.6±16%	Objective not met
75% will know that plants grow in the canyon due to shade, moisture and windblown dust.	85.7±12%	Objective met
75% will know that Maligne Canyon changes with the season (freezes in winter).	80.0±13%	Objective met
Stopping Power - 75%	39.0±3%	Objective not met
Holding Power - 1.0	0.82±.03	Objective not met

Discussion/Conclusion

The grapic for sign 9 is not clear and the complexity of the text results in confusion. The text should be simplified.

Visitors are able to state, before reading the sign, the reasons plants grow in the canyon. In addition the holding power for this sign is very low, possibly due to the length of the sign. Since sign 10 is redundant the removal of sign 10 would increase the holding power of signs 9 and 11.

RECOMMENDATION

Rewrite, clarifying and simplifying the text of Sign 9.

Remove Sign 10.

SIGN #12

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign 12		
75% will know that the river has decreased in energy.	97.8±4%	Objective met
75% will know that other canyons are presently forming in Jasper.	58.7±14%	Study design bias
Stopping Power - 75%	42.9±3%	Objective not met
Holding Power - 1.0	1.28±.02	Objective exceeded

Discussion/Conclusion

As this sign is at the end of the trail, visitors are tired mentally and physically. The canyon here is not as impressive as before this point and the viewpoint here is wide. Therefore visitors tend to bypass this viewpoint, especially if they are tired.

The sign could be moved to a narrower, more attractive point in the trail, possibly just beyond the viewpoint near Bridge #1. However this must be considered carefully as it may cause a problem with crowding.

RECOMMENDATION

None

SIGN #13

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign #13		
75% will know that the fossils are remains of marine creatures.	81.3±14%	Objective met
75% will know that a sea covered this area 350 million years ago.	56.3±17%	Objective not met
75% will find fossils in the rock.	87.5±8%	Objective met
Stopping Power - 75%	37.8±3%	Objective not met
Holding Power - 1.0	2.45±.04	Objective exceeded

Discussion/Conclusion

As with the On Site Exhibit, visitors are confused with the time scale. Many of the visitors thought that 'ice' or 'glaciers' were here 350 million years ago, implying that the visitors could not co-ordinate the time scale to the occurance. As mentioned previously, a graphic time scale could assist in clarifying the time involved.

By the time visitors have walked the trail and reached this point, they may feel the trail has finished; the path is not near the river and they are close to the Tea House and the parking lot. The sign is also low to the ground and easily overlooked. Therefore, this sign is easily by-passed.

RECOMMENDATION

Clarify the time scale

Narrow the path near the sign and make the sign more obvious, possibly higher.

Sign #13 Being low and slightly off the trail this sign is frequently bypassed.

SIGN #14

OBJECTIVE	RESULT	COMMENT
Of the people who read Sign 14		
80% will be able to point out where they are on the map.	100%	Objective exceeded
80% will know that it takes 55 minutes to walk to the Tea House from the Fifth Bridge.	45.0±22%	Objective not met
75% will know there are outlets of an underground river along the trail.	45.0±22%	Objective not met
75% will know there are examples of water erosion along the trail.	65.0±21%	Objective not met
Stopping Power - 90%	93.0±7%	Objective met
Holding Power - 1.0	1.43±.2	Objective exceeded

Discussion/Conclusion

The use of a numeric (55 minutes) in this text presents problems. From other signs and questions (sign 1, questions 1 and 2) it was found that visitors did not remember numbers well and, although they may have read the sign and remembered most of it, the numbers are not very significant for them. Even one hour would probably be easier to remember than 55 minutes.

In the text the underground river is a secondary message and only briefly mentioned. If this message is to meet the criterion, it should be explained with greater emphasis. Similarly water erosion should be given more stress. However the objective for this sign may have been too optimistic. Visitors were able to name at least one feature found along the trail, showing some information retention. In addition, the map tended to draw attention from the holding powers are high, no refinement will be considered.

RECOMMENDATION

Change the text to read one hour instead of 55 minutes.

C. TRAFFIC FLOW DECISION POINTS

OBJECTIVE	RESULT	COMMENT
The following percentages of people will make these decisions.		
1. 75% will go to the On-Site Exhibit at first	76.0±.004%	Objective met
less than 25% will first go to the Teahouse.	24.0±.004%	Objective met
2. 90% of the people starting from the trailhead will continue past Bridge #2.	92.7±10%	Objective met
3. Of the vehicles driving south on Maligne Road, 70% will turn into Maligne Canyon.	63.0±2.%	Objective not met
4. Of the vehicles driving north along Maligne Road, less than 20% will turn into Maligne Canyon.	25.9±3%	Objective not met
5. Of the vehicles coming from Maligne Canyon, 60% will turn towards Medicine Lake.	57.6±3%	Objective met

Discussion/Conclusion

Of the people going towards Medicine Lake, fewer than expected entered the Canyon Access Road, although 89±3% of the vehicles travelling on Maligne Road did visit the Canyon.

At least one visitor stated that directions to Maligne Canyon were not clear. It is possible that this may influence the percent of visitors who visit the Canyon before going to the Lake.

RECOMMENDATION

Improve the highway signage indicating Maligne Canyon to make it more noticeable.

D. PEDESTRIAN TRAFFIC FLOW

	OBJECTIVE		RESULT	COMMENT
The following percentages of visitors are expected to reach these areas				
1.	On-Site Exhibit	75%	85.7±7%	Objective met
2.	Bridge #2	90%	86.7±9%	Objective not met
3.	Bridge #1	90%	76.2±13%	Objective not met
4.	Teahouse	90%	76.2±13%	Objective not met
5.	Bridge #3	35%	44.2±14%	Objective met
6.	Bridge #4	20%	30.8±13%	Objective met
7.	Bridge #5	10%	8.7±8%	Objective not met
8.	Lower parking lot	1%	2.0±4%	Objective met

Discussion/Conclusion

More visitors than expected did not enter the trail, resulting in low results for objectives 2,3 and 4. In addition, some visitors who took the Lower Trail would arrive at Bridge #2 quite tired and would then go to the parking lot either because they thought they had seen the Canyon or because they were too tired to continue. As a result they did not reach Bridge #1 or the Teahouse and missed the large waterfall and the rest of the media.

The trail below Bridge #3 and especially past Bridge #4 was extremely wet and muddy during the evaluation period. As a result, fewer groups than expected reached Bridge #5.

RECOMMENDATION

Place a small directional sign for visitors coming from the Lower Trail indicating the waterfall or Teahouse, and the time required to walk to the Teahouse.

E. SITE DURATION

	OBJECTIVE	RESULT	COMMENT
The following percentages of people will spend these lengths of time at the Canyon.			
less than ½ hour	less than 40%	31.4±3%	Objective met
½ - 1 hour	more than 30%	34.1±3%	Objective met
1 - 2 hours	more than 20%	28.4±3%	Objective met
2 hours	10%	6.1±2%	Objective not met

Discussion/Conclusion

Generally the site duration results were succesful, however not as many as expected stayed over 2 hours. Poor weather probably affected this result.

RECOMMENDATION

None

F. BEHAVIOURAL OBJECTIVES

	OBJECTIVE	RESULT	COMMENT
70% of the handicapped visitors will be able to negotiate the Upper Trail.		100%	Objective met

Discussion/Conclusion

One handicapped visitor reported having difficulty on the trail - however all handicapped visitors were able to negotiate it.

RECOMMENDATION

None

Handicapped Visitor. Handicapped people were able to use the trail although one person reported "with great difficulty".

G. AFFECTIVE OBJECTIVES

OBJECTIVE	RESULT	COMMENT
Of the people who walk Maligne Canyon Self-Guiding Trail		
90% will report that they enjoyed the trail	60.9±12%	Data Bias
90% will report that they felt safe	27.5±11%	Data Bias
90% will report that they found the experience worthwhile	62.3±12%	Data Bias
There will be a statistical increase in the number of visitors who:		
wish to return to Maligne Valley	no increase	Objective not met
will be interested in visiting the rest of the valley	no increase	Objective not met
are supportive of the interpretation media and the trail systems	increase	Objective met
appreciate and support Parks Canada	increase	Objective met
experience a feeling of wonder, wilderness solitude and pensiveness while at Maligne Canyon	Insufficient Data	

Discussion/Conclusion

All visitors questioned reported they found their visit to be positive; enjoyable or worthwhile or safe.

Even before visiting the Canyon, the percent of visitors who wished to return to the Valley and were interested in visiting the rest of the Valley was high. Factors such as time, weather and group composition influence decisions to visit the rest of the Valley and the visitors' home town or city distance from Jasper strongly influences a decision to return to the Valley.

Although this couldn't be determined before visitors visited the Canyon, visitors after visiting the Canyon reported experiencing

feeling of wonder and pensiveness, wilderness solitude, awe and occasionally apprehension while at the Canyon.

Visitors to Maligne Canyon generally have a positive experience, enjoying the visit and finding it interesting or worthwhile. They are positively influenced towards Parks Canada and the non-personal interpretive media. In these respects the trail system is a success. In addition, despite the development and rehabilitation of the site, Maligne Canyon still provides feelings of wonder, pensiveness and wilderness solitude to many of its visitors.

GENERAL OBSERVATIONS

The following problems were noted during this study:

Near the Teahouse and Sign #13 people constantly slip through the fence to wander onto the rocks near the river. The river here is dangerously swift and at least one person has fallen in and been swept over the falls.

In addition, despite warning signs, people also play on the rocks near the river below Bridge #4. This is also a hazardous area.

The paths became extremely muddy due to the amount of rain during the study period and, in some cases, quite slippery. At least one of the evaluators slipped and was slightly injured on the trail when it was wet.

Discussion/Conclusion

Visitors find it pleasant to sit on the rocks near the river but they should be adequately warned of the dangers before they do so. Signs near the Teahouse and below Bridge #4, near the river, would provide some warning.

Modifications to reduce the mud on the trail should be considered and signs warning of the slipperiness of the trail should be installed.

RECOMMENDATIONS

Provide danger warning signs at the Teahouse and below Bridge #4, near the river.

Modify the trail to decrease the mud on the trail and provide warning signs.

DEMOGRAPHIC ASSUMPTIONS

ASSUMPTIONS	RESULT	COMMENT
The following demographic assumptions were made in planning the Maligne Canyon Interpretive Media:		
95% of the visitors will be fluent in French or English.	91.1±2%	Assumption high
20% will be under 12 years old	10.5±1%	Assumption high
20% will be over 60 years old	9.9±1%	Assumption high
1% will be handicapped	1.6±2%	Assumption correct
20% will have post secondary education	62.6±10%	Assumption low
30% will be travelling by tour bus	16.3±1%	Assumption high
20% will be repeat visitors	26.1±7%	Assumption correct
20% will be aware of the retail publication	20.0±7%	Assumption correct
20% will have listened to the LPRT for Maligne Valley	18.3±7%	Assumption correct
Over 100,000 visitors per year will visit Maligne Canyon.	Over 150,000	Assumption correct

Discussion/Conclusion

Some of the visitor characteristics were radically different than expected. There were fewer visitors fluent in French or English; German was actually more common than French.

There were fewer visitors under 12 years old and many more with post secondary education than expected. This implies that the education levels of the visitors was much higher than the level the media was written for, which may have resulted in the inefficiency of some of the media.

RECOMMENDATION

Determine visitor characteristics more accurately before designing media.

7. CONCLUSIONS

Generally the Maligne Canyon Self-Guiding Trail media are providing information to the visitor and the texts are sufficiently interesting to hold the reader's attention. Visitor reaction to Maligne Canyon is extremely positive, from both the results of this survey and from talking to visitors while on site. The site increases visitors' support of Parks Canada and the interpretive systems. From the visitors' point of view the site is an overwhelming success.

However some refinements are required for the site to meet all objectives for the Self-Guiding Trail, and to provide a more effective communication program.

8. RECOMMENDATIONS

8.1 Media Modifications

a **Text Refinements**

the On-Site Exhibit

-clarify the location of the Canyon in Maligne Valley
-clearly label the model
-provide a graphic time scale to clarify magnitudes of time and occurences of events
-refer to limestone rather than bedrock or rock

Sign #1

-clarify the sculpturing of the Canyon by water
-refer to limestone rather than rock

Sign #2

-simplify and provide information that does not compete with the scenery

Sign #6

-provide more detailed information

Sign #7

-clarify the origin of the river water

Sign #9

-clarify the message and the graphic

Sign #14

-change to read '1 hour' instead of '55 minutes'

Road Sign on Highway 16

- indicate Maligne Valley

Road Sign indicating Maligne Canyon

- improve to make directions clearer.

b Location of Media

the On-Site Exhibit

-move panels 1 and 4 to the Teahouse facing the end of the trail

Sign #1 and 2

-place sign #1 on Bridge #2 and sign #2 where sign #1 is at present, angled towards the trail

Sign #10

-remove

Sign #13

-move up to waist height

8.2 New Sign Requirements

-danger warnings at the Teahouse and below Bridge #4, near the river
-slippery trail warnings on the Upper and Lower Trail
-directional signage to the Teahouse and large waterfall at the junction of the Lower and Upper Trails, facing the Lower Trail
-Maligne Valley road sign at the start of the Valley

8.3 Site Modifications

-provide drainage for Bridge #3

8.4 Measurable Objectives

- reconsider the criteria set for stopping power

- reword some objectives noteably for Sign 3, and Sign #14
- reconsider the cognitive objective for Sign 7.

9. IMPACT ON OTHER PLANNING EFFORTS

Planning for a new site involves consideration of many factors - the characteristics of the visitors to the site when it is completed, the features of the site which provide good examples of the storyline, other features which may be of interpretive interest and the final messages to be presented to the public. In addition the planner must consider the best location to present the message and the most efficient and effective medium to use.

In the past most planners used experience, common sense and creativity to make these decisions. However some of the results from this evaluation can provide guidelines for the planner to consider when planning a new site. These include:

1. Obtain a better assessment of the visitor population, particularly with regard to age and education. If texts are all written for children and only 10% are under 12, then 90% of the visitors are not involved with those media.

   Visitor education levels are important in determining the message content. Too simple a concept may not teach the visitors anything but too complex an idea will confuse readers. Levels of information, some simple and some quite detailed, will assist in involving all ages and levels of education with the media.

2. Measurable objectives should be clearly set before writing the texts to indicate the precise objective of the text to assist in design and eventual evaluation.

3. The texts should be fairly short, less than 30 seconds to read and clear, but not too simple, messages. Interesting ideas expressed in simple language seem to be most effective.

4. Visitors seem to be unable to remember numbers very well, although they are interested in knowing figures and statistics (How deep is the Canyon? How old is the Canyon? were two questions commonly asked by visitors). Such statistics should therefore, be include in texts but not considered to be major knowledge gain objectives.

5. Signs should be positioned to face the visitor as they walk the trail, where they can be easily noticed. The height of the sign also seems to be important, as, if it is too high, children and handicapped visitors cannot read it, but if it is too low, then it can be easily bypassed. (See Sign #13).

6. The signs should not attempt to compete with spectacular scenery, unless providing information about the scenery and its major points of fascination. Providing different information may make the reader select the more interesting subject, the view or the text.

7. Crowding can be a problem so signs should not be placed where they will create traffic jams, unless there is a necessity for important information at that point.

8. Visitor involvement with the sign and the subject seems to create interest, as in the fossils of Sign #13. Texts leading people to some physical involvement such as touching, smelling or hearing seem to have a high holding ability.

9. Too much information generates visitor mental fatigue and they stop reading the signs. By providing only essential information visitors should not become tired of reading and learning, and may be willing to stop and read more signs.